

NO. 127

AWS D17.1.2001
QUALIFICATION TEST RECORD

Name Barry Elliott
Joint Welding Procedure Tig
Part number and Job number A350636012 / B33006

TEST WELDS REQUIRED

BASE METAL Alum WELDING PROCESS Tig
Penetration Complete ☐ Partial ☒ Single Weld ☒ Double Weld ☐
Current AC ☒ DC ☐ Backing YES ☐ NO ☒

	Position	Vertical	Down <input type="checkbox"/>	Up <input type="checkbox"/>
Sheet Groove	1G <input type="checkbox"/>	2G <input type="checkbox"/>	3G <input type="checkbox"/>	4G <input type="checkbox"/>
Tube Groove	1G <input type="checkbox"/>	2G <input type="checkbox"/>	5G <input type="checkbox"/>	6G <input type="checkbox"/>
Sheet Fillet	1F <input type="checkbox"/>	2F <input type="checkbox"/>	3F <input type="checkbox"/>	4F <input type="checkbox"/>
Tube Fillet	1F <input type="checkbox"/>	2F <input type="checkbox"/>	4F <input type="checkbox"/>	5F <input type="checkbox"/>

Crossbolt Spacer Welded into Skid tube

TEST RESULTS

Visual Pass ☒ Fail ☐
Penetration Pass ☒ Fail ☐
Crossbolt Spacer Pass ☒ Fail ☐

The above named individual is qualified in accordance with AWS D17.1.2001 to weld

Date of Test Coupon 07/09/11 Qualifier David Sewal

UNDER REVIEW

01.05.16

OK CB

D2750-043/-044 ASSEMBLY
D2750-043 SHOWN (D2750-044 OPPOSITE)

BOND D2739 WEB INTO D2750-3 (OR D2750-4)
OUTER TUBE WITH NON-STRUCTURAL
SIKAFLEX-241 ADHESIVE PER DART QSI 015.
NOTE: ENSURE THAT HOLES LINE UP.

SEE DET. P
SEE DET. N
D3488-041
(OR D3488-042)

BLACK ANTI-SKID

SEE DET. M

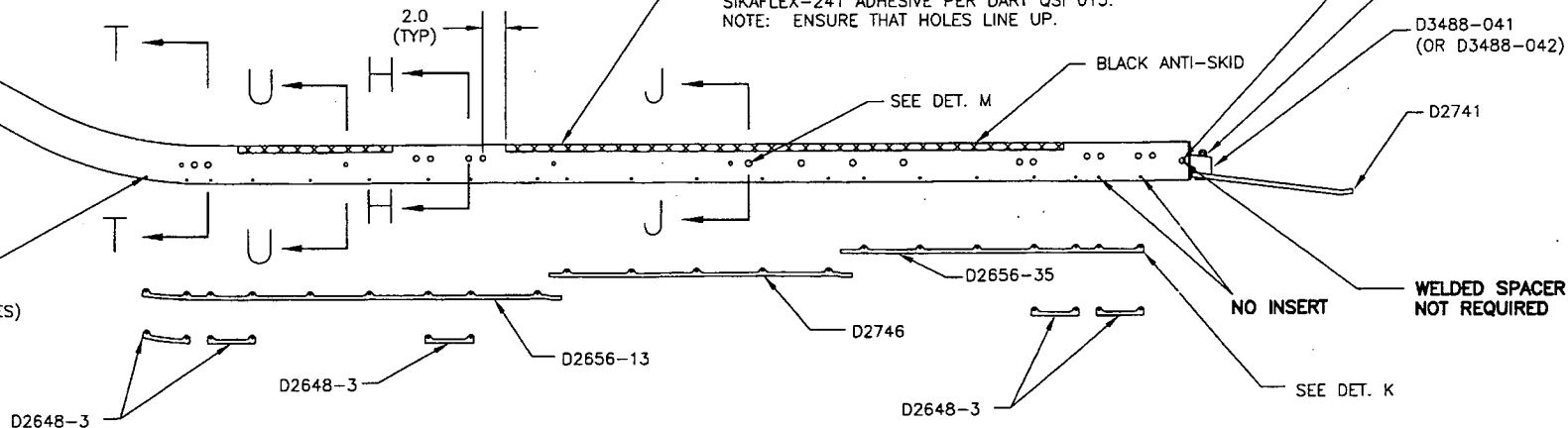
D2741

SEE DET. Q

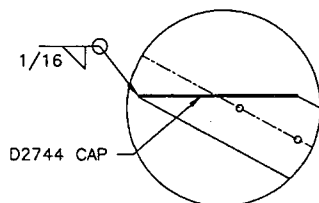
DETAIL G

INSTALL NAS1330S3KB166
WEARSHOE INSERTS (38 PLACES)
AFTER FINISH

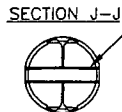
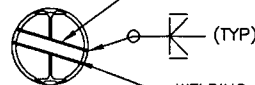
RELEASED
06.02.07.16



DETAIL G



SECTION H-H D2743 SPACER (REF)



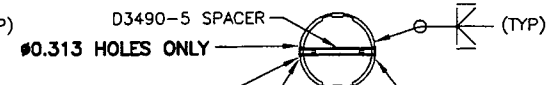
- WELDING INSTRUCTIONS**
1. CHAMFER HOLE 0.050 X 45°
 2. INSERT D2743 SPACER
 3. WELD INTO PLACE
 4. GRIND FLUSH
 5. DRILL OUT SPACER TO Ø0.484
 6. SPOT FACE Ø0.750 (SECTION J-J ONLY)

SECTION T-T



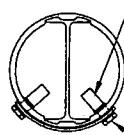
D3492-041 PLUG ASSEMBLY

SECTION U-U



D3492-045 PLUG ASSEMBLY

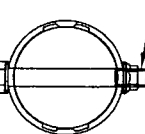
DETAIL K



USE AN3C7A BOLTS
FOR INSTALLING AFT
D2648-3 WEARPAD
(4 PLACES)

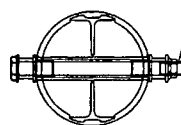
AN3C5A BOLT (1)
AN960C10L WASHER (1)
NAS1515H3L WASHER (1)
(38 PLACES)

DETAIL P



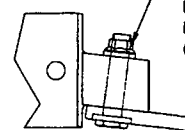
AN8C35A BOLT (1)
AN960C816L WASHER (2)
NAS1515H8L WASHER (2)
MS21083C8 NUT (1)

DETAIL M



AN6C44A BOLT (1)
D2745 BUSHING (2)
NAS1515H8L WASHER (2)
MS21043-6 NUT (1)
(4 PLACES)
**NOTE: INSTALL WASHER BETWEEN
SKIDTUBE AND BUSHING**

DETAIL N



AN8C21A BOLT (1)
AN960JD816L WASHER (1)
NAS1515H8L WASHER (1)
MS21083C8 NUT (1)
(2 PLACES)

WELDING INSTRUCTIONS

1. CHAMFER HOLE 0.050 X 45°
2. INSERT D3490-5 SPACER (4 PLACES) INTO Ø0.313 HOLES OR INSERT D3490-1 SPACER (4 PLACES) INTO Ø0.500 HOLES
3. WELD INTO PLACE
4. GRIND FLUSH
5. INSERT D3492-045 PLUG ASSEMBLY (8 PLACES) INTO D3490-5 SPACER OR INSERT D3492-041 PLUG ASSEMBLY (8 PLACES) INTO D3490-1 SPACER ON BOTH ENDS

NO. 33007
WORK ORDER
WITHOUT NOTICE
UNCONTROLLED COPY
ENGINEERING
SUBJECT TO AMENDMENT

COPYRIGHT © 1986 BY DART AEROSPACE USA, INC.		DESIGN PH	DRAWN BY PH	DART DART AEROSPACE USA, INC. PORT HADLOCK, WA	
THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.		CHECKED #	APPROVED #	DRAWING NO. D2750	REV. D SHEET 5 OF 5
		DATE 06.01.05	TITLE 350 SKIDTUBE ASSEMBLY		SCALE 1:20

UNDER REVIEW

07.07.05 CB

OK CB

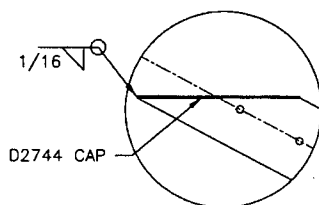
SEE DET. Q

DETAIL G

INSTALL NAS1330S3KB166
WEARSHOE INSERTS (38 PLACES)
AFTER FINISH

RELEASED
06.02.07

DETAIL G



DETAIL K

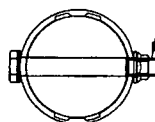
USE AN3C7A BOLTS
FOR INSTALLING AFT
D2648-3 WEARPAD
(4 PLACES)



AN3C5A BOLT (1)
AN960JD10L WASHER (1)
NAS1515H3L WASHER (1)
(38 PLACES)

DETAIL P

AN8C35A BOLT (1)
AN960C816L WASHER (2)
NAS1515H8L WASHER (2)
MS21083C8 NUT (1)



NO 23007
WORK ORDER

DETAIL Q

AN3C6A BOLT (1)
AN960C10L WASHER (1)
NAS1515H3L WASHER (1)
(4 PLACES)



SECTION H-H



D2743 SPACER (REF)

(TYP)

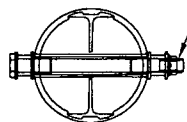
SECTION J-J



WELDING INSTRUCTIONS

1. CHAMFER HOLE 0.050 X 45°
2. INSERT D2743 SPACER
3. WELD INTO PLACE
4. GRIND FLUSH
5. DRILL OUT SPACER TO Ø0.484
6. SPOT FACE Ø0.750 (SECTION J-J ONLY)

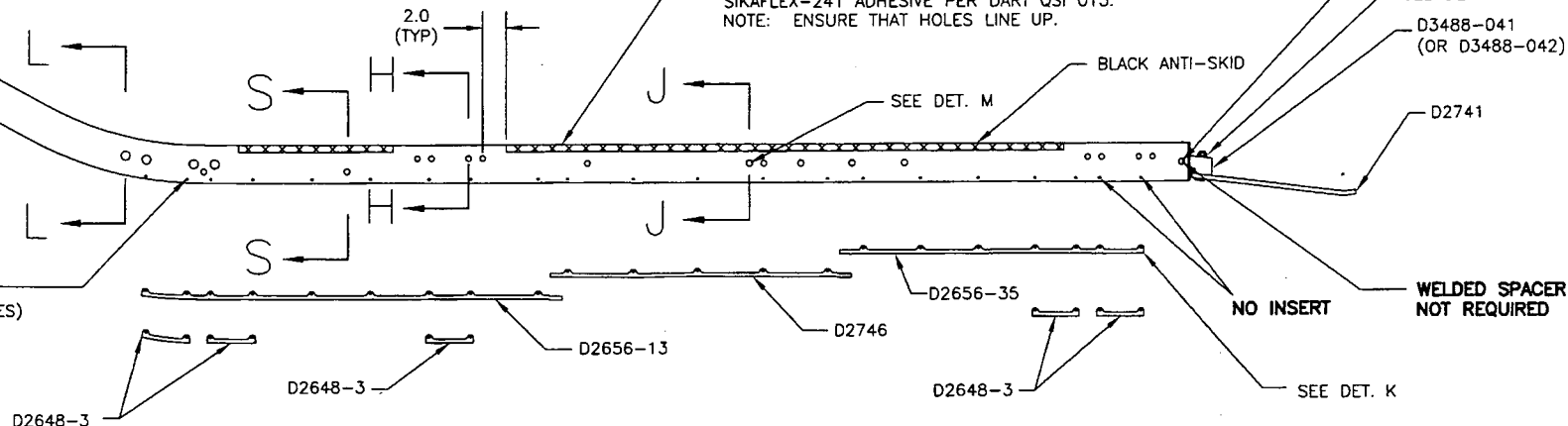
DETAIL M



AN6-44A BOLT (1)
D2745 BUSHING (2)
NAS1515H8L WASHER (2)
MS21043-6 NUT (1)
(4 PLACES)
NOTE: INSTALL WASHER BETWEEN
SKIDTUBE AND BUSHING

D2750-041/-042 ASSEMBLY D2750-041 SHOWN (D2750-042 OPPOSITE)

BOND D2739 WEB INTO D2750-1 (OR D2750-2)
OUTER TUBE WITH NON-STRUCTURAL
SIKAFLEX-241 ADHESIVE PER DART QSI 015.
NOTE: ENSURE THAT HOLES LINE UP.



SECTION L-L

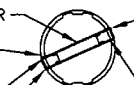


D3490-3 SPACER

Ø0.750 HOLES ONLY

D3492-043 PLUG ASSEMBLY

SECTION S-S



D3490-1 SPACER

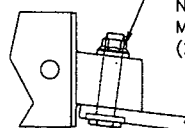
Ø0.500 HOLES ONLY

D3492-041 PLUG ASSEMBLY

WELDING INSTRUCTIONS

1. CHAMFER HOLE 0.050 X 45°
2. INSERT D3490-1 SPACER (4 PLACES) INTO Ø0.500 HOLES OR INSERT D3490-3 SPACER (4 PLACES) INTO Ø0.750 HOLES
3. WELD INTO PLACE
4. GRIND FLUSH
5. INSERT D3492-041 PLUG ASSEMBLY (8 PLACES) INTO D3490-1 SPACER OR INSERT D3492-043 PLUG ASSEMBLY (8 PLACES) INTO D3490-3 SPACER ON BOTH ENDS

DETAIL N



AN8C21A BOLT (1)
AN960JD816L WASHER (1)
NAS1515H8L WASHER (1)
MS21083C8 NUT (1)
(2 PLACES)

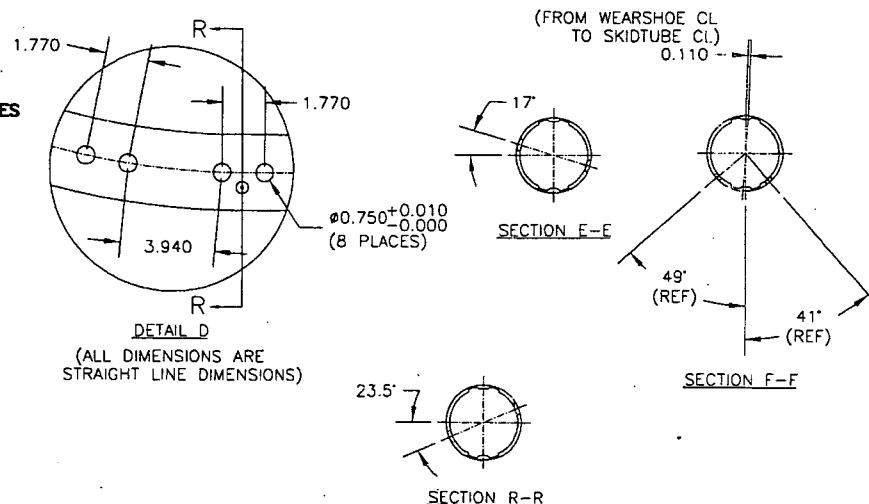
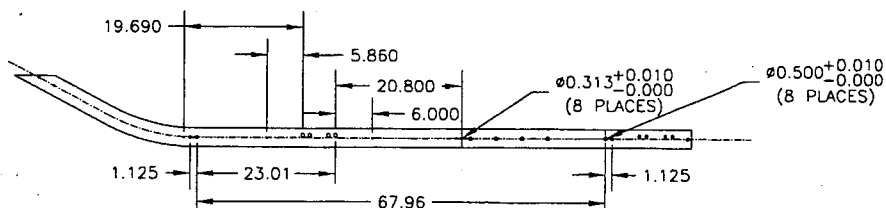
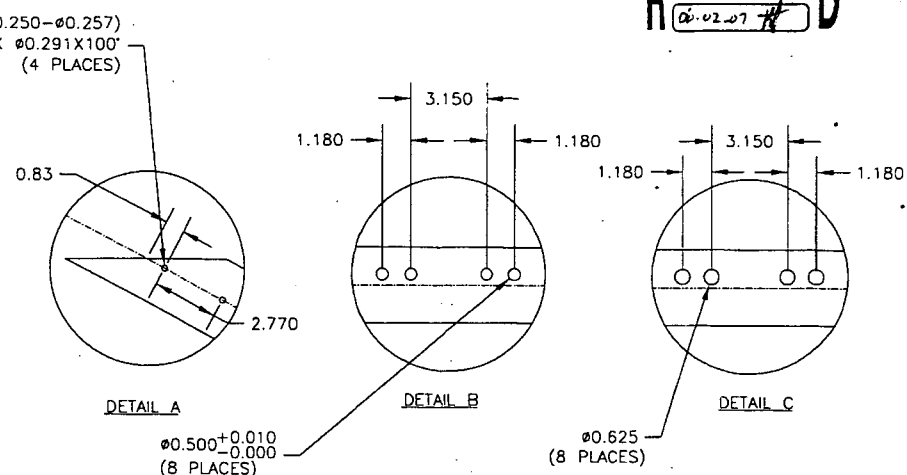
COPYRIGHT © 1998 BY DART AEROSPACE USA, INC.

THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL
AND IS SUPPLIED ON THE EXPRESS CONDITION
THAT IT IS NOT TO BE USED FOR ANY PURPOSE
OR COPIED OR COMMUNICATED TO ANY OTHER
PERSON WITHOUT WRITTEN PERMISSION FROM
DART AEROSPACE USA, INC.

DESIGN	DRAWN BY	DART AEROSPACE USA, INC. PORT HADLOCK, WA	
CHECKED	APPROVED	DRAWING NO.	REV. 0
DATE		D2750	SHEET 4 OF 5
06.01.05		TITLE	SCALE
		350 SKIDTUBE ASSEMBLY	1:20


ok
CB

RELEASED
01-02-07



D2750-3 LH SKIDTUBE (SHOWN)
D2750-4 RH SKIDTUBE (OPPOSITE)
 D2750-3/-4 AND D2750-1/-2 HAVE THE SAME SADDLE AND
 GROUND HANDLING HOLES

SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 33007

COPYRIGHT © 1986 BY DART AEROSPACE USA, INC. THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.	DESIGN	PH	DRAWN BY	PH	 DART AEROSPACE USA, INC. PORT HADLOCK, MA	
	CHECKED	#	APPROVED	#		DRAWING NO.
	DATE	06.01.05				D2750
					REV. D	
					SHEET 3 OF 5	
				TITLE	SCALE	
				350 SKIDTUBE ASSEMBLY	1:20	



DESIGN PH	DRAWN BY PH	DART AEROSPACE USA, INC. PORT HADLOCK, WA	
CHECKED PH	APPROVED PH	DRAWING NO. D2750	REV. D SHEET 2 OF 5
DATE 06.01.05		TITLE 350 SKIDTUBE ASSEMBLY	SCALE NTS

UNDER REVIEW

07.02.05 CB

SS wearplates

OK
CB

RELEASED
06.02.07

GENERAL NOTES:

1. ALL DIMENSIONS ARE IN INCHES
2. TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED.
3. MAKE FROM D2600-3 EXTRUSION (INITIAL LENGTH = 120.0).
4. DAMAGE TOLERANCE ON BENDING:
THERE SHOULD BE NO VISIBLE WRINKLES IN THE BEND FROM THE GROUND TO A HEIGHT OF 12 INCHES ABOVE THE GROUND. NO GOUGING IS ACCEPTABLE IN THE FLAT PORTION OF THE TUBE. GOUGES UP TO 0.020 ARE ACCEPTABLE IN THE BENT PORTION OF THE TUBE. TUBE O.D. SHOULD BE 3.150 ± 0.010 IN THE FLAT PORTION OF THE TUBE. TUBE O.D. SHOULD BE 3.15 ± 0.030 IN THE BENT PORTION OF THE TUBE.
5. ALL HOLES DRILLED ON CENTERLINES EXCEPT THOSE NOTED BY SECTIONS E-E, F-F, AND R-R.
6. WELDING TO BE DONE PER DART QSI 004.
7. FINAL CONFIGURATION SHOULD HAVE THE FOLLOWING MINIMUM MECHANICAL PROPERTIES:
MINIMUM YIELD TENSILE STRENGTH = 35 ksi
MINIMUM ULTIMATE TENSILE STRENGTH = 38 ksi
8. FINISH:
ACID ETCH, ALODINE ASSEMBLY PER DART QSI 005 4.1 PRIOR TO INSTALLING D2739 WEB.
POWDER COAT WHITE (REF. 4.3.5.1) PER DART QSI 005 4.3
BLACK ANTI-SKID PAINT AS INDICATED TO 1.0 ABOVE SKIDTUBE CENTER-LINE PER DART 005 4.4 (OPTIONAL).
9. INSTALL NAS1330S3KB166 INSERTS AFTER FINISH AS INDICATED IN D2750-1/-2/-3/-4 WELDING DETAIL ON PAGE 4 AND 5. DRILL 'E' SIZE HOLES ($\emptyset 0.250$ - $\emptyset 0.257$) FOR WEARSHOE INSERTS. C'SINK $\emptyset 0.391 \times 100^\circ$ AND INSTALL INSERTS
10. D3488-041 (OR D3488-042) BLADE FITTING AND AN3-5A/AN3-7A WEARSHOE SCREWS TO BE INSTALLED USING SIKAFLEX-241 (OR EQUIVALENT) SEALANT.
11. SPRAY INSIDE OF TUBE WITH A COAT OF LPS LABORATORIES "LPS-3" AFTER FINISH AND AFTER INSTALLATION OF INSERTS. COAT ALL EXPOSED FASTENERS WITH LPS LABORATORIES "LPS PROCYON" AFTER FINAL ASSEMBLY, CLEAN EXCESS OFF POWDER COATING WITH MEK DEGREASER.
12. APPLY A LAYER OF SIKAFLEX -241/-291 ADHESIVE BETWEEN THE BOTTOM OF THE SKIDTUBE ASSEMBLY AND THE WEARPLATES

SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBSTITUTION
WITHOUT NOTICE
WORK ORDER
33801

Copyright © 1998 by DART AEROSPACE USA, INC.

THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.



DESIGN <i>PH</i>	DRAWN BY <i>PH</i>	DART AEROSPACE USA, INC. PORT HADLOCK, WA	
CHECKED <i>PH</i>	APPROVED <i>PH</i>	DRAWING NO. D2750	REV. D SHEET 1 OF 5
DATE 06.01.05		TITLE 350 SKIDTUBE ASSEMBLY SCALE NTS	
A	98.04.16	NEW ISSUE	
B	98.09.01	CHANGE MS24694-S293 TO AN8-16A	
C	98.11.18	ADD D2750-3/D2750-4 INCORPORATE D2738 AND D2740	
D	06.01.05	ADD HOLES AND SPACERS FOR APICAL FLOATS INCORPORATE DEO 9133/9157	

RELEASED
06.02.07 *PH*

UNDER REVIEW *OK*
CB

07.02.05 *CB*

*add gaskets
change to 55 wearplates*

Qty -041	Qty -042	Qty -043	Qty -044	Part Number	Description
X				D2750-041	SKIDTUBE ASSEMBLY, LH
	X			D2750-042	SKIDTUBE ASSEMBLY, RH
		X		D2750-043	SKIDTUBE ASSEMBLY, LH
			X	D2750-044	SKIDTUBE ASSEMBLY, RH
5	5	5	5	D2648-3	WEARPAD
1	1	1	1	D2656-13	WEARSHOE
1	1	1	1	D2656-35	WEARSHOE
1	1	1	1	D2746	WEARSHOE
1	1	1	1	D2739	WEB
1	1	1	1	D2741	BLADE
8	8	8	8	D2743	SPACER
1	1	1	1	D2744	CAP
8	8	8	8	D2745	BUSHING
1				D2750-1	SKIDTUBE WELDMENT, LH
	1			D2750-2	SKIDTUBE WELDMENT, RH
		1		D2750-3	SKIDTUBE WELDMENT, LH
			1	D2750-4	SKIDTUBE WELDMENT, RH
1		1		D3488-041	BLADE FITTING, LH
	1		1	D3488-042	BLADE FITTING, RH
4	4	4	4	D3490-1	SPACER
4	4			D3490-3	SPACER
		4	4	D3490-5	SPACER
8	8	8	8	D3492-041	PLUG ASSEMBLY
8	8			D3492-043	PLUG ASSEMBLY
		8	8	D3492-045	PLUG ASSEMBLY
38	38	38	38	AN3C5A	BOLT
4	4	4	4	AN3C6A	BOLT
4	4	4	4	AN3C7A	BOLT
4	4	4	4	AN6C44A	BOLT
2	2	2	2	AN8C21A	BOLT
1	1	1	1	AN8C35A	BOLT
46	46	46	46	AN960C10L	WASHER
4	4	4	4	AN960C816L	WASHER
4	4	4	4	MS21043-6	NUT
3	3	3	3	MS21083C8	NUT
42	42	42	42	NAS1330S3KB166	INSERT
46	46	46	46	NAS1515H3L	WASHER
12	12	12	12	NAS1515H8L	WASHER

SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 33007

Copyright © 1998 by DART AEROSPACE USA, INC.

THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____
 QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Date: Tuesday, 6/19/2007 4:37:56 PM
User: Kim Johnston

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: 350 SKIDTUBE ASSEMBLY RH

Job Number: 33007

Part Number: D350636012

Job Number:



Seq. #:

Machine Or Operation:

Description :

48.0

D34931

WASHER



Comment: Qty.: 2.0000 Each(s)/Unit Total : 2.0000 Each(s)
WASHER B32877-

49.0

D35321

spacer



Comment: Qty.: 2.0000 Each(s)/Unit Total : 2.0000 Each(s)
spacer B27894-

50.0

QC4

INSPECT 100% KITS FOR COMPLETENESS



Comment: INSPECT 100% KITS FOR COMPLETENESS

51.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1
Package as per PPP D350-636-012

REV: F C 07/10/05

52.0

QC21

FINAL INSPECTION/W/O RELEASE



Comment: FINAL INSPECTION/W/O RELEASE

AP 07/10/07

Job Completion



C 07/10/07

B33007

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: ED Date: 07/10/09
 QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Date: Tuesday, 6/19/2007 4:37:56 PM
User: Kim Johnston

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: 350 SKIDTUBE ASSEMBLY RH

Job Number: 33007

Part Number: D350636012

Job Number:



Seq. #:

Machine Or Operation:

Description :

4-Coat all exposed fasteners with "LPS Procyon"

batch: M104251

BR 07-10-04

41.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

E 7/10/05

42.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Pick Packing Kit

43.0

D2741

Blade



Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

Blade

Batch: B325803

EP

44.0

AN960C816L

WASHER



Comment: Qty.: 2.0000 Each(s)/Unit Total : 2.0000 Each(s)

Washer

Batch: M104093

EP

45.0

MS21083C8

NUT



Comment: Qty.: 2.0000 Each(s)/Unit Total : 2.0000 Each(s)

Nut

Batch: M104625

EP

46.0

AN8C21A

BOLT



Comment: Qty.: 2.0000 Each(s)/Unit Total : 2.0000 Each(s)

Bolt

Batch: M105107

EP

47.0

NAS1515H8L

WASHER



Comment: Qty.: 2.0000 Each(s)/Unit Total : 2.0000 Each(s)

WASHER

Batch: M104955

EP

EP 07/10/05

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: 350 SKIDTUBE ASSEMBLY RH

Job Number: 33007

Part Number: D350636012

Job Number:



Seq. #:

Machine Or Operation:

Description :

35.0

AN960C816L

WASHER



Comment: Qty.: 2.0000 Each(s)/Unit Total : 2.0000 Each(s)

WASHER

Batch: M104093

BR

36.0

MS210436

NUT



Comment: Qty.: 4.0000 Each(s)/Unit Total : 4.0000 Each(s)

NUT

Batch: M103693

BR

37.0

MS21083C8

NUT



Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

NUT

Batch: M104625

BR

38.0

NAS1515H3L

WASHER



Comment: Qty.: 46.0000 Each(s)/Unit Total : 46.0000 Each(s)

WASHER

Batch: M105408

BR

39.0

NAS1515H8L

WASHER



Comment: Qty.: 10.0000 Each(s)/Unit Total : 10.0000 Each(s)

WASHER

Batch: M104922

BR

40.0

HAND FINISHING1

HAND FINISHING RESOURCE #1



Comment: HAND FINISHING RESOURCE #1

1-Inspect for Foreign Objects

2-Spray inside of tube with "LPS-3"

batch: M104161

3-Install blade fitting D3488-042, wearshoes and ground handling hardware as per dwg D2750

SIKA FLEX 241

BATCH: M105469

EXP DATE: 08-01

BR 07-10-04

BR 07-10-04

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Date.: Tuesday, 6/19/2007 4:37:56 PM
User: Kim Johnston

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: 350 SKIDTUBE ASSEMBLY RH

Job Number: 33007

Part Number: D350636012

Job Number:



Seq. #:

Machine Or Operation:

Description :

28.0

D3492043

PLUG ASSEMBLY



Comment: Qty.: 8.0000 Each(s)/Unit Total : 8.0000 Each(s)

PLUG ASSEMBLY

Batch: *B32997*

BR

29.0

AN3C5A

Bolt



Comment: Qty.: 38.0000 Each(s)/Unit Total : 38.0000 Each(s)

Bolt

Batch: *M104885*

BR

30.0

AN3C6A

BOLT



Comment: Qty.: 4.0000 Each(s)/Unit Total : 4.0000 Each(s)

Bolt

Batch: *M105007*

BR

31.0

AN3C7A

BOLT



Comment: Qty.: 4.0000 Each(s)/Unit Total : 4.0000 Each(s)

BOLT

Batch: *M103668*

BR

32.0

AN6C44A

BOLT



Comment: Qty.: 4.0000 Each(s)/Unit Total : 4.0000 Each(s)

BOLT

Batch: *M104937*

BR

33.0

AN8C35A

BOLT



Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

BOLT

Batch: *M102671*

BR

34.0

AN960C10L

washer



Comment: Qty.: 46.0000 Each(s)/Unit Total : 46.0000 Each(s)

washer

Batch: *M104537*

BR

BR 07-10-04

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: 350 SKIDTUBE ASSEMBLY RH

Job Number: 33007

Part Number: D350636012

Job Number:



Seq. #:

Machine Or Operation:

Description :

21.0

D26483

Wearpad



Comment: Qty.: 5.0000 Each(s)/Unit Total : 5.0000 Each(s)

Wearpad

Batch: B33059

BR

22.0

D265613

Wearplate



Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

Wearplate

Batch: B31889

BR

23.0

D265635

Wearplate



Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

Wearplate

Batch: B30554

BR

24.0

D2746

Wearshoe



Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

Wearplate

Batch: B32991

BR

25.0

D2745

Bushing



Comment: Qty.: 8.0000 Each(s)/Unit Total : 8.0000 Each(s)

Bushing

Batch: B30817

BR

26.0

D3488042

BLADE FITTING ASSEMBLY, RH



Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

Blade Fitting, LH

Batch: B32233

BR

27.0

D3492041

PLUG ASSEMBLY



Comment: Qty.: 8.0000 Each(s)/Unit Total : 8.0000 Each(s)

PLUG ASSEMBLY

Batch: B32294

BR

BR 07-10-04

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: 350 SKIDTUBE ASSEMBLY RH

Job Number: 33007

Part Number: D350636012

Job Number:



Seq. #:

Machine Or Operation:

Description:

9-Spot face ground handling holes section J-J (total of 4 places per side) as per dwg D2750

8H 2121

10-Deburr holes

SL 7-10-1 1H

14.0

QC9

VISUAL WELDING INSPECTION



Comment: VISUAL WELDING INSPECTION

8D 07-10-02

15.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

check with Blandine

8D 07-10-03

16.0

POWDER COATING

POWDER COATING



Comment: POWDER COATING

Powder Coat Gloss White (Ref. 4.3.5.1) as per Dart QSI 005 4.3

8D 07-10-03 ①

17.0

QC3

INSPECT POWDER COAT/CHEMICAL CONVERSION



Comment: INSPECT POWDER COAT/CHEMICAL CONVERSION

Inspect for foreign object per QSI 024

8D 07-10-03 ②

18.0

NAS1330S3KB166

INSERT



Comment: Qty.: 42.0000 Each(s)/Unit Total: 42.0000 Each(s)

INSERT

Batch:

M104819

19.0

HAND FINISHING1

HAND FINISHING RESOURCE #1



Comment: HAND FINISHING RESOURCE #1

1-Install inserts as per dwg D2750

BR

07-10-03

20.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

Inspect Inserts

8D 07-10-03

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Date: Tuesday, 6/19/2007 4:37:55 PM
User: Kim Johnston

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: 350 SKIDTUBE ASSEMBLY RH

Job Number: 33007

Part Number: D350636012

Job Number:



Seq. #:

Machine Or Operation:

Description :

10.0

D34901

CROSS BOLT SPACER



Comment: Qty.: 4.0000 Each(s)/Unit Total : 4.0000 Each(s)

Crossbolt spacer

Batch: B32658

BE 07-09-28

11.0

D34903

CROSS BOLT SPACER



Comment: Qty.: 4.0000 Each(s)/Unit Total : 4.0000 Each(s)

Crossbolt spacer

Batch: B33825

BE 07-09-28

12.0

D2743

Crossbolt Spacer



Comment: Qty.: 8.0000 Each(s)/Unit Total : 8.0000 Each(s)

Crossbolt Spacer

Batch: B31696

BE 07-09-28

13.0

LANDING GEAR 1

LANDING GEAR RESOURCE 1



Comment: LANDING GEAR RESOURCE 1

1-Open up holes of Detail V & Detail C to 0.625" (total of 8 holes per side)
as per dwg D2750.

2-Open up holes of Detail D to 0.750" (total of 4 holes per side)
as per dwg D2750.

3-Open float holes to .500" (4 per Side)

4-Chamfer holes of Detail V, Detail C, Detail D and hole size "W" per dwg D2750 (welding instructions on sheet 4)

5-Deburr and blow out all chips from inside of tube

6-Bond web D2739 in place as per QSI 015

A/R Sikaflex-291 batch: M105408
exp. date: 8-7-1

7- Weld spacers D3490-1, D3490-3 and D2743 as per dwg D2750 & QSI004
(welding instructions on sheet 4)

A/R Aluminum Rod batch: M105058

8-Grind welds flush as per Dwg D2750

GL 7-10-1

7-9-12

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Date: Tuesday, 6/19/2007 4:37:55 PM
User: Kim Johnston

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: 350 SKIDTUBE ASSEMBLY RH

Job Number: 33007

Part Number: D350636012

Job Number:



Seq. #:

Machine Or Operation:

Description :

as per dwg D2750.

4-Drill pilot holes for Detail B using DT8330

5-Open up holes for Detail B, "hole size W" and blade fitting location holes to 0.500" (total of 9 holes per side) as per dwg D2750 .

6-Drill pilot holes for wearplates as per Dwg D2750 using DT8108 and open to 0.250" ***Make sure that wearplate holes are on bottom of tube*****

7-Open up holes of Detail A to 0.250" (total of 2 holes per side)

8- Countersink all fwd wearshoe holes (total of 19 holes per side) DO NOT C'SINK THE LAST AFT HOLES (total of 2 per side for blade fitting) as per dwg D2750.

9-Weld D2744 Cap as per Dwg D2750 and QSI 004. Fill grooves in bend left from bending as per QSI 004
A/R Aluminum Rod M 104221 BE 07-08-10

10-Grind welds flush as per Dwg D2750

11-Countersink Detail A as per dwg D2750.

5.0

QC9

VISUAL WELDING INSPECTION



Comment: VISUAL WELDING INSPECTION

107/09/12

6.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

107/09/12

7.0

HAND FINISHING1

HAND FINISHING RESOURCE #1



Comment: HAND FINISHING RESOURCE #1

Chemical Conversion Coat as per QSI 005 4.1

107-9-12

8.0

QC3

INSPECT POWDER COAT/CHEMICAL CONVERSION



Comment: INSPECT POWDER COAT/CHEMICAL CONVERSION

DP 7-9-12

9.0

D2739

350 I Beam



Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

Web

Batch:

B 33421

107-9-12

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

